

Application No. 10/084,545
Docket No. AD6799 US NA

Amendments to the Claims

Please amend claims 1, 15, 17, 32, and 33 as indicated below:

1. (Currently amended) A balloon catheter cover comprising a tubular elastic fabric structure for covering the outer surface of a balloon catheter, wherein the tubular elastic structure is formed of interconnected circumferential and longitudinal yarns, the circumferential yarns having stretch and recovery properties and the longitudinal yarns having more resistance to stretch than the circumferential yarns.
2. (Previously presented) The balloon catheter cover of claim 1 wherein the change in length in the longitudinal direction over the full range of stretch and recovery in the circumferential direction is less than 0.25 times the change in the diameter over the full range of stretch and recovery.
3. (Original) The balloon catheter cover of claim 2 wherein the circumferential yarns have an elongation at break of more than 300%.
4. (Original) The balloon catheter cover of claim 3 wherein the longitudinal yarns have an elongation at break of less than 30%.
5. (Previously presented) The balloon catheter cover of claim 1 wherein the degree of stretch in the circumferential direction is such that the diameter of the cover when stretched is more than 2 times the diameter of the cover when collapsed.
6. (Previously presented) The balloon catheter cover of claim 1 wherein the degree of stretch is such that the diameter of the cover when stretched is more than 3 times the diameter of the cover when collapsed.

Application No. 10/084,545
Docket No. AD6799 US NA

7. (Original) The balloon catheter cover of claim 1 wherein the longitudinal yarns are positioned at about zero degrees to the balloon axis and the circumferential yarns are positioned at an angle \emptyset to the axis of at least 70°.
8. (Original) The balloon catheter cover of claim 7 wherein the angle \emptyset is greater than 85°.
9. (Previously presented) The balloon catheter cover of claim 8 wherein the angle \emptyset is about 90°.
10. (Previously presented) The balloon catheter cover of claim 1 wherein the fabric structure is a triaxial braid wherein the circumferential yarns are elastomeric braiding yarns and the longitudinal yarns are axial yarns that resist stretching.
11. (Original) The balloon catheter cover of claim 1 wherein the fabric structure is a woven fabric wherein the circumferential yarns are filling yarns and the longitudinal yarns are warp yarns.
12. (Original) The balloon catheter cover of claim 1 wherein the tubular structure is made from a fabric selected from the group of fabrics consisting of non-woven fabrics and those made by weft knitting and by warp knitting.
13. (Original) The balloon catheter cover of claim 12 wherein the tubular structure is made by sewing edges of a flat fabric together so as to make a tube having a longitudinal dimension and a circumferential dimension, the edges being sewn together being along the longitudinal dimension.
14. (Previously presented) The balloon catheter cover of claim 1 wherein the circumferential yarns are elastomeric yarns selected from the group consisting of yarns made from spandex fibers, fibers of polyurethane polymers, fibers of silicone elastomers, fibers of polyester/polyether block copolymers, fibers of polypropylene, fibers of fluoroelastomers, fibers of elastomeric polyolefins, and fibers of combinations thereof.

Application No. 10/084,545
Docket No. AD6799 US NA

15. (Currently amended) The balloon catheter cover of claim 14 wherein the elastomeric yarns are spandex fibers comprising segmented polyurethanes, wherein the segmented polyurethanes ~~of the spandex fibers is~~ are selected from the group consisting of polyetherurethaneurea and polyesterurethaneurea block copolymers, or combinations thereof.
16. (Previously presented) The balloon catheter cover of claim 14 wherein the elastomeric yarns are covered.
17. (Currently amended) The balloon catheter cover of ~~claims-claim~~ claim 1 wherein the longitudinal yarns are selected from yarns made from fibers of polyesters; polyamides; aramids; polyolefins; polyglycolic acids; polylactic acids; fluoropolymers; and combinations thereof.
18. (Withdrawn) A process for making the balloon catheter cover of Claim 1 in which multiple longitudinal yarns are placed from a fixed source along the longitudinal dimension over a core so as to not intertwine with themselves and multiple circumferential yarns from moving sources are intertwined in the circumferential dimension with the longitudinal yarns and themselves.
19. (Withdrawn) The process of claim 18 in which the core is a balloon catheter.
20. (Withdrawn) The process of claim 18 in which the core is a removable mandrel.
21. (Withdrawn) The process of claim 20 in which the removable mandrel is an array on monofilament yarns.
22. (Withdrawn) The process of claims 18 where the circumferential yarns are intertwined with the longitudinal yarns and themselves by flat or circular weaving.
23. (Withdrawn) The process of claims 18 where the circumferential yarns are intertwined with the longitudinal yarns and themselves by triaxial braiding.

Application No. 10/084,545
Docket No. AD6799 US NA

24. (Withdrawn) The process of claims 18 where the circumferential yarns are intertwined with the longitudinal yarns and themselves by knitting.

25. (Withdrawn) A braiding process for making the balloon catheter cover of Claim 1 comprising triaxially braiding 2, 4 or 6 elastomeric braiding yarns with multiple axial yarns.

26. (Withdrawn) The triaxial braiding process of Claim 25 wherein the number of braiding yarns is less than half of the number of axial yarns.

27. (Withdrawn) The triaxial braiding process of claim 26 wherein the number of braiding yarns is less than or equal to one-eighth of the number of axial yarns.

28. (Withdrawn) The braiding process of claims 25 wherein the braid angle between the braiding yarn and the axial yarn is greater than 70°.

29. (Withdrawn) A method of making a balloon catheter covered with the balloon catheter cover of Claim 1 in which the balloon catheter cover is formed directly over a balloon catheter.

30. (Withdrawn) A method of making a balloon catheter covered with the balloon cover of Claim 1 in which the balloon catheter cover is formed over a removable mandrel and the balloon catheter cover is subsequently placed over a catheter balloon.

31. (Withdrawn) The method of claim 30 in which the removable mandrel is a helical spring which is removed by unwinding the coils of the spring from the inside to cause the catheter cover to contract onto a balloon catheter.

32. (Currently amended) The balloon catheter cover of claim 1 in which the properties vary along the length of the tubular elastic fabric structure sleeve.

33. (Currently amended) A balloon catheter cover of claim 32 in which the tubular elastic fabric structure is a braided structure and in which the varied properties along the length of the tubular elastic fabric structure sleeve are produced by

Application No. 10/084,545
Docket No. AD6799 US NA

varying the braiding yarn spacing along the length of the sleeve tubular elastic fabric structure.

34. (Original) A balloon catheter cover of claim 1 in which the shape is not cylindrical.

35. (Previously presented) The balloon catheter cover of claim 34 in which the non-cylindrical shape is obtained by forming the cover over a shaped mandrel.